

### Claims

1. A method for determining the performance of decoding in a telecommunication system comprising a decoder and a testing apparatus for supplying test data to the decoder, the method comprising steps of
  - 5 generating test data comprising channel coded parameters and inband data,
  - transmitting the test data from the testing apparatus to the decoder for decoding,
  - extracting at least a part of the inband data from the decoded test
  - 10 data,
  - transmitting at least the part of the inband data back to the testing apparatus, and
  - determining the performance of decoding by comparing the transmitted inband data and the received inband data in the test apparatus.
- 15 2. A method according to claim 1, further comprising
  - bypassing a link adaptation process of the decoder prior to transmitting at least the part of the inband data back to the testing apparatus.
3. A method according to claim 1, further comprising
  - activating a traffic channel of the telecommunication system before
  - 20 transmitting the test data, and
  - transmitting the test data from the testing apparatus to the decoder in the downlink traffic channel and from the decoder to the testing apparatus in the uplink traffic channel.
4. A method according to claim 3, further comprising
  - 25 transmitting the inband data back to the testing apparatus in the first available uplink traffic channel time frame.
5. A method according to claim 3, further comprising
  - transmitting, prior to transmitting the test data, a message from the testing apparatus to activate a test loop in the decoder, which test loop is im-
  - 30 plemented in functional connection with the decoder and
  - acknowledging said message from the decoder to the testing apparatus, in response to the traffic channel being activated.
6. A method according to claim 5, wherein
  - the message is a bit combination of CLOSE\_TCH\_LOOP\_CMD
  - 35 message according to the GSM system.
7. A method according to claim 1, wherein

the channel coded parameters are speech parameters.

8. A method according to claim 1, further comprising

determining the performance of channel decoding of mode indication (MI) inband data field in AMR full-rate or half-rate speech channel.

5 9. A testing apparatus for determining the performance of a decoder, which testing apparatus is arranged to be functionally connected to the decoder, the testing apparatus comprising

a composing means for composing test data comprising channel coded parameters and inband data,

10 a transmitter for transmitting the test data to the decoder for decoding,

a receiver for receiving at least part of the inband data, and

a comparator for determining the performance of decoding by comparing the transmitted inband data and the received inband data.

15 10. A testing apparatus according to claim 9, wherein the testing apparatus is arranged to

activate a traffic channel towards the decoder before transmitting the test data,

transmit the test data to the decoder in the downlink traffic channel,

20 and

receive the test data from the decoder in the uplink traffic channel.

11. A testing apparatus according to claim 10, wherein the testing apparatus is arranged to

25 transmit, prior to transmitting the test data, a message to the decoder to activate a test loop in the decoder, which test loop is implemented in functional connection with the decoder and

receive an acknowledgement of said message from the decoder, in response to the traffic channel being activated.

12. A mobile station, comprising

30 a receiver for receiving test data comprising channel coded parameters and inband data from a testing apparatus,

a decoder for decoding the test data,

extracting means for extracting at least part of the inband data from the decoded test data, and

35 a transmitter for transmitting at least a part of the inband data back to the testing apparatus.

13. A mobile station according to claim 12, wherein  
the inband data is arranged to be transmitted back to the testing  
apparatus in the first available uplink traffic channel time frame.